

D_{SRZ} or $D_{DBH} = C \div 3.14$
 'C' shall be measured with a flexible measuring device at height detailed

DETAIL A

METHOD OF CALCULATING 'D' FROM TREE CIRCUMFERENCE

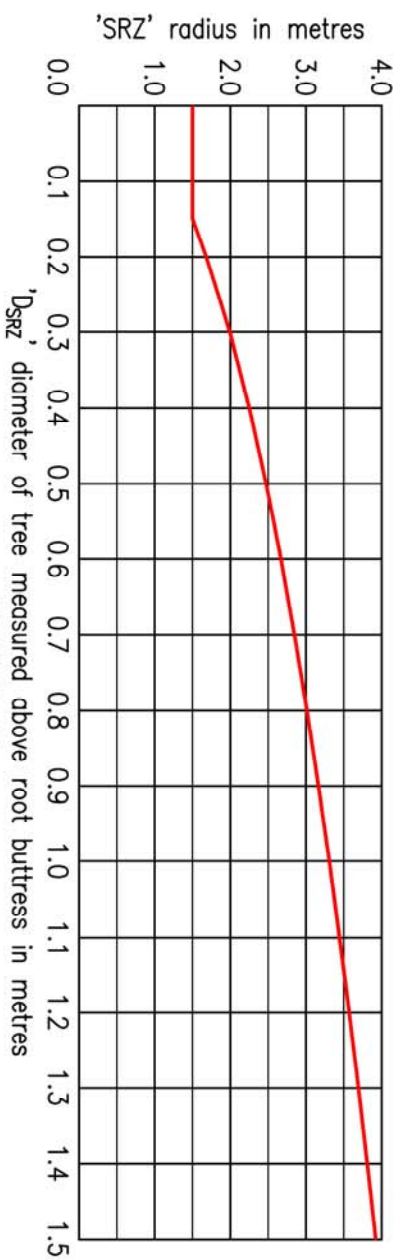
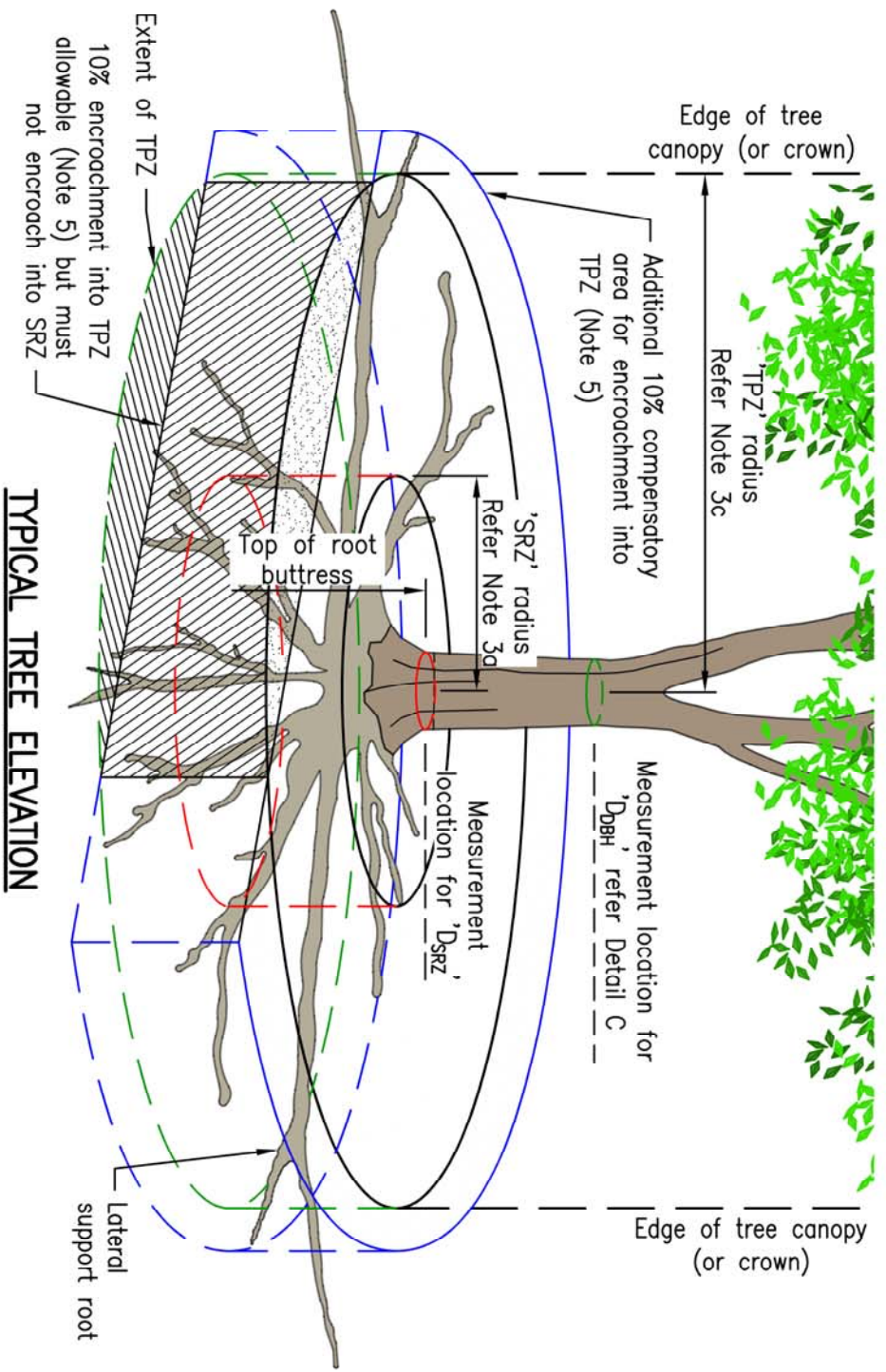


TABLE FOR DETERMINING 'SRZ'

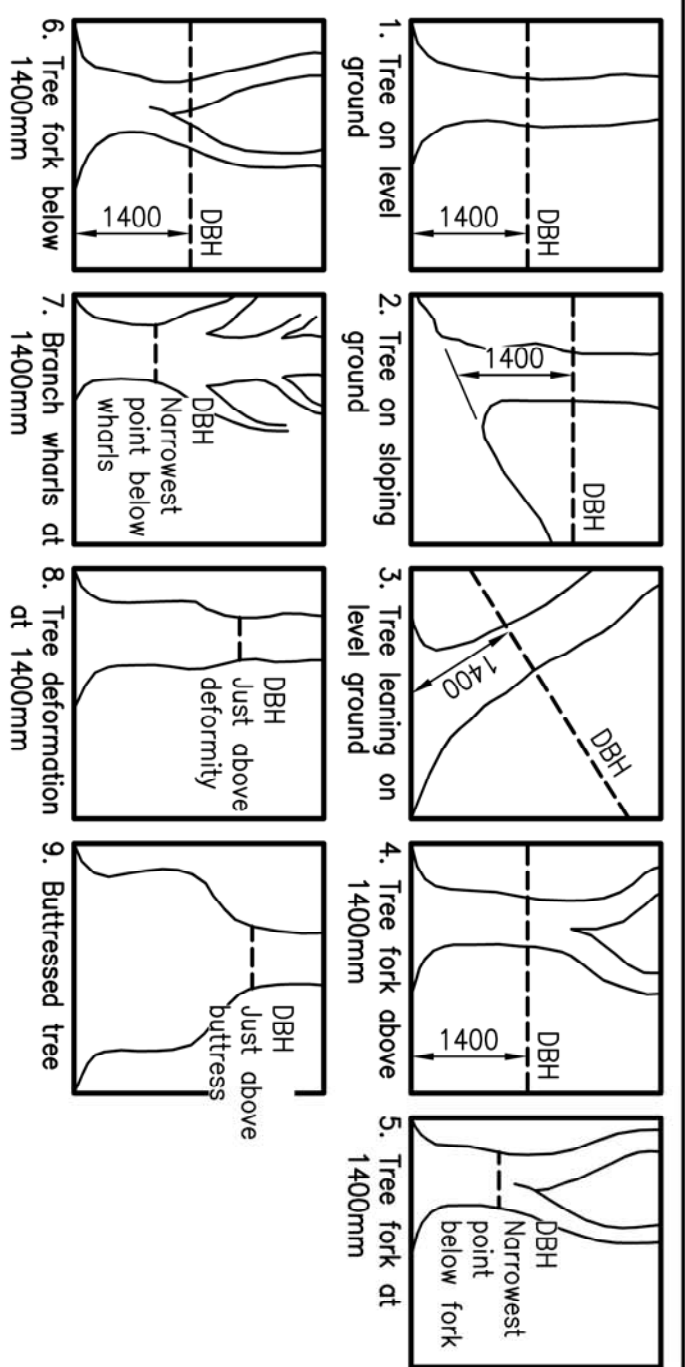
DETAIL B



TYPICAL TREE ELEVATION

REVISIONS		SCALES	
NO.	DATE	Drawn	Date
E		BW	07/16
D		Coordinator	07/16
C		PP	07/16
B			
A	Note 3a amended	TC	06/18
	ORIGINAL ISSUE	BW	07/16

Drawn: SYD JERRAM 07/07/16 Manager Integrated Transport Planning & Design RREQ 6872	
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For example 6, the combined stem DBH may be calculated using the formula:
 $Total\ DBH = \sqrt{(DBH_1)^2 + (DBH_2)^2 + (DBH_3)^2}$

DETAIL C

METHOD OF DETERMINING HEIGHT ABOVE GROUND FOR 'DBH'

NOTES:

- Refer Australian standards AS4970-2009 for protection of trees on development sites.
- Definitions from AS4970:
 - Structural Root Zone (SRZ) – 'The area around the base of the tree required for the trees stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk in the centre and is expressed by it radius in metres. This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.'
 - Diameter at Breast Height (DBH) – 'The nominal trunk diameter at 1.4m above ground.' Used to calculate Tree Protection Zone (TPZ).
 - Tree Protection Zone (TPZ) – 'A specified area above or below ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development.'
- Methods of measuring specified zones:
 - SRZ – Refer Detail A and Detail B. Detail B is derived from formula: $SRZ = (D_{srz} \times 50)^{0.42} \times 0.64$, where D = trunk diameter, in metres, measured above root buttress. The SRZ for trees with trunk diameters less than 0.15m will be 1.5m. Details provided on this drawing for SRZ do not apply to palms, other monocots, cycads and tree ferns or trees with an asymmetrical root plate, for these situations refer an arborist.
 - DBH – Refer Detail A and Detail C.
 - TPZ – Calculated using the following formula: $TPZ = D_{DBH} \times 12$. The TPZ should not be less than 2.0m nor greater than 15.0m (except where crown protection is required). The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1.0m outside the crown projection.
- The SRZ shall not be encroached on without arborist consultation.
- TPZ may be encroached on up to 10% of its total area but must not encroach into the SRZ. Where encroachment is required an additional 10% must be added to the remaining area of the TPZ.
- The TPZ may need to include additional protection of the above ground parts of the tree.
- Compaction of any part of the root zone must not occur. Trees fail to survive in compacted ground.
- When in doubt consult with an arborist.

PROTECTION ZONES OF TREES

DRG No. **G1-0500**
 ORIGINAL SIZE **A3** REVISION **A**